Sensormatic

Video Systems

SpeedDome® Optima Programmable Dome Cameras

FEATURES

- *Color camera with 16X optical zoom*
- *450+ lines horizontal resolution*
- *Zoom adjusted programming*
- *Auto focus and auto iris*
- *Auto white balance*
- *Automatic gain control*
- *Line-lock*
- *Supports RS422, RS485, Manchester, and SensorNet protocols*
- *Up to 96 user-definable Presets*
- *Three user-definable Patterns*
- *One alarm input*
- *One auxiliary output*
- *Indoor and outdoor versions*
- *Power-on functional tests*
- *LED diagnostics*
- *Easy to install and service*
- *Priced comparably to a PTZ, with more features and easier to install*
- *Direct drive stepper motors with micro-step control*

SpeedDome Optima delivers the standard features of a programmable dome, but is priced comparably to a PTZ. This provides an alternative for customers who prefer the convenience and programmability of a dome camera, but previously considered domes to be price-prohibitive.

Choose from several innovative mounting options, including hard ceiling and 2x2 tile, as well as wall and pendant mounts (for both indoor and outdoor applications). And because the dome contains all of the necessary install components, installation is a breeze – just 15 minutes from box to ceiling for the hard ceiling mount. The dome's power-on diagnostics and functional tests assist with fault isolation during install and service.

The dome accommodates a variety of protocols, including RS422, RS485, Manchester and SensorNet, making it compatible with virtually any controller, including third party controllers (with the use of Sensormatic's open protocol document).

The dome features a color camera with 16X optical zoom and 450+ TV lines resolution, providing a quality, high-resolution picture. The dome also provides user-programmable Presets and Patterns, and contains one alarm input and an auxiliary output.

Programmable dome features for a PTZ price

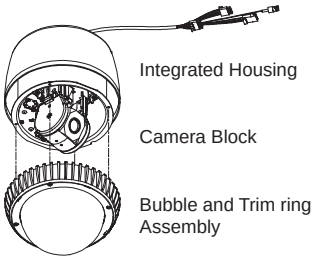
FEATURES

- Integral 16X optical zoom and 450+ lines horizontal resolution provide a quality, high-resolution picture.
- Advanced third generation Digital Signal Processing (DSP) CCD camera delivers sharp, detailed images.
- Zoom Adjusted Program (ZAP) automatically adjusts pan and tilt speeds in proportion to zoom position, even at 16X magnification.
- Automatic white balance allows the camera to automatically adjust the white balance of the image, providing optimal image quality.
- The automatic focus provides clear images without the need for manual adjustments.
- The auto iris provides visible scenes without the user having to manually compensate for diverse lighting conditions.
- The dome's bulkhead or pigtail/flying lead connection method makes the dome easy to install and service – as little as 15 minutes from box-to-ceiling.
- The dome is available in both indoor and outdoor versions.
- The dome supports up to 96 user-definable Presets and three user-definable Patterns.
- The dome incorporates an automatic flip feature. This feature enables the dome to automatically turn 180° when the camera tilts to its lower limits and stays in that position for a brief speed-proportional delay.
- Vertical sync phase adjustment is provided to help compensate for different phases of power when line-lock is enabled, making it ideal for single and multi-phase power installations.
- Surge protection.
- Alarms are processed externally by the controller, and can automatically call a Preset, run a Pattern, or activate an auxiliary output when the alarm is activated.
- The dome contains a series of diagnostic LEDs for power, communication, network type and failure mode.
- The fully isolated power supply helps eliminate ground loops.
- Sensing of 50/60 Hz line is automatic and does not require manual adjustment.
- Allows daisy chain configuration of control wiring.
  - For RS422/RS485: 10 domes at a maximum distance of 1 km (3,000 ft) on two 22 AWG shielded twisted pairs (STP).
  - For SensorNet: 32 devices at a maximum distance of 1 km (3,000 ft) on one 22 AWG unshielded twisted pair (UTP).
  - For Manchester: 3 domes at a maximum distance of 1.5 km (5,000 ft) on one 18 AWG shielded twisted pair (STP).

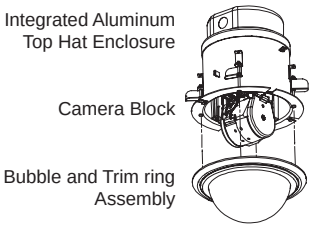
TWO HOUSING OPTIONS

The **integral housing model,** which is constructed of ABS plastic, is suitable for both indoor and outdoor applications. This model incorporates a pigtail/flying lead connection for mechanical and electrical cabling. The outdoor version of the integral housing model is weather and tamper-proof, and contains a heater/blower that protects the dome. In extreme temperatures, the housing's built-in fan prevents the dome from overheating, and the built-in thermostat and heater prevent ice from forming on the outside bubble.

The **in-ceiling model** is designed with an integrated aluminum top hat enclosure and plenum cap with swing-out tabs that grasp ceiling material, ensuring a secure and easy installation. This model utilizes a bulkhead connection for mechanical and electrical cabling. The in-ceiling model is for indoor applications only.



Integral Housing Model
Pigtail/flying lead mechanical and electrical connection



In-Ceiling Model
Mechanical and electrical bulkhead connection

SpeedDome Optima provides you with 16X zoom and continuous autofocus

SPECIFICATIONS

Operational

Manual Pan/Tilt Speed	1°-50° per second (based on zoom position)
Preset Pan/Tilt Speed	100° per second, maximum
Pan Travel	360° continuous
Tilt Travel	> 90°
Pan/Tilt Accuracy	± 0.5°
Zoom/Focus Accuracy	± 0.5%
Optical Zoom	16X
Bubble Density	Clear (f0.0) or Smoked (f0.5)
Programmable Presets	
VM16/ADTT16 (SensorNet)	96
VM16/ADTT16 (with Code Converter)	4
VM32/AD32 (SensorNet)	96
VM32/AD32 (with Code Converter)	4
AD2150 (Manchester)	64
AD2150 (RS422/RS485 via AD2083-02A)	16
VM96	Unlimited
VM1	4
AD168 (Manchester via CCM or AD2091)	64
AD168 (RS422/RS485 via CCM)	64
AD168 (RS422/RS485 via AD2083-02A)	16
AD168 (SensorNet via CCM)	64
MegaPower™ 1024 (Manchester via AD2091)	64
MegaPower 1024 (RS422/RS485 via AD2083-02A)	16
MegaPower 48 (Manchester)	64
MegaPower 48 (RS422/RS485)	96
MegaPower 48 (SensorNet)	96
Programmable Patterns	3
Auto Synchronization	
Line-Locked	Remote V-phase adjustment
Internal	Built-in sync generator
Address Range	
RS422/RS485	1-100
Manchester	1-64
SensorNet	1-255
Alarm Inputs	1
Auxiliary Relay Outputs	1

Electrical

Input Voltage	24 to 30 VAC, Class 2 LPS
Design Tolerance	16 to 36 VAC
Line Frequency	50/60 Hz
Power Consumption	
Indoor	21 watts maximum
Outdoor	80 watts maximum
Power On In-Rush Current	3 amps
Allowable Drop-out	33 ms
Surge Protection	
Video	Series resistor of 3.9 Ω; low-capacitance Zener suppressor of 6.5 V, 1500 watts
SensorNet/Manchester	Isolation transformer coupled, 2000 Vrms; PTC resettable fuse protects transformer; TVS rated at 5.6 V, 40 A, 0.1 joules; 10 kA impulse rated gas tube
RS422/RS485	Series resistors of 33 Ω; TVS rated at 5.6 V, 40 A, 0.1 joules
Alarm Input	Series resistors of 33 Ω; TVS rated at 5.6 V, 40 A, 0.1 joules
Power Line	TVS rated at 60 V, 250 A, 1.5 joules

Camera

Imager	Interline transfer 1/4 inch CCD array
Scanning System	2:1 interlace
Video Output	1.0 Vp-p, 75 Ω composite
S/N Ratio	48 dB (typical)
Horizontal Resolution	>450 lines at center
Minimum Illumination	1.5 lux (20 IRE, AGC on)
Gain Control	Automatic (AGC)
White Balance	Through the Lens (TTL) Automatic Tracing White Balance (ATW)
NTSC	
Pickup Device	768 (H) x 494 (V) pixels
Scanning	525 lines, 60 fields, 30 frames
Horizontal	15.734 kHz
Vertical	59.9 Hz
PAL	
Pickup Devices	752 (H) x 582 (V) pixels
Scanning	625 lines, 50 fields, 25 frames
Horizontal	15.625 kHz
Vertical	50 Hz

Lens

Design	Aspherical
Focal Length	4 to 64 mm
Aperture	f1.4 (wide), f2.2 (tele)
4 mm	47.0° (H) x 35.2° (V)
64 mm	3.0° (H) x 2.25° (V)
Scanning Area	3.2 mm (H) x 2.4 mm (V)

Field of View Formulas

Horizontal View = (.845 x A) / B

Vertical View = (.634 x A) / B

A = distance from camera in meters or feet

B = zoom power (e.g. 16X)

SpeedDome Optima accommodates multiple protocols, enabling compatibility with virtually any controller

Mechanical

Dimensions (H x D)

- In-Ceiling Model
  - Total ..... 301 x 190.5 mm (11.9 x 7.5 in)
  - Above Ceiling ..... 207.4 x 190.5 mm (8.2 x 7.5 in)
  - Below Ceiling ..... 92.7 x 178 mm (3.65 x 7.0 in)
- Integral Housing Model ..... 303 x 243.5 mm (11.9 x 9.6 in)

Weight

- In-Ceiling Model ..... 2.5 Kg (5.5 lbs)
- Integral Housing Model
  - Indoor ..... 2.7 Kg (6.1 lbs)
  - Outdoor ..... 3.0 Kg (6.6 lbs)

Environmental

Weatherproof Standard
(outdoor models) IP43/NEMA3.5

Operating Temperature

- Indoor ..... -10° to 50°C (14° to 122°F)
- Outdoor ..... -40° to 50°C (-40° to 122°F)

Humidity ..... 0 to 95% RH (non-condensing)

Storage Temperature ..... -20˚ to 65˚C (-4˚ to 149˚F)

Regulatory

Emissions ..... FCC: 47 CFR Part 15, Subpart B, Class A
CE: EN55022 Class B

Immunity ..... CE: EN50130-4

Safety ..... UL: UL2044

Product Codes

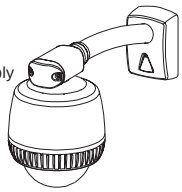
Mounting Options	NTSC	PAL
Indoor Hard Ceiling, Smoked Bubble	RASINHS*	RASIPHS-1*
Indoor Hard Ceiling, Clear Bubble	RASINHC*	RASIPHC-1*
Indoor Pendant, Smoked Bubble	RASINPS	RASIPPS-1
Indoor Pendant, Clear Bubble	RASINPC	RASIPPC-1
Outdoor Mount, Smoked Bubble	RASONPS	RASOPPS-1
Outdoor Mount, Clear Bubble	RASONPC	RASOPPC-1

* Optional RH2X2 mount for 2x2 tile ceilings.

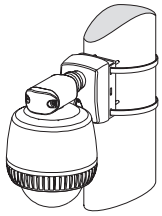
Mounts and Adapters

RHOSW
Indoor/Outdoor
Short wall mount,
with end cap assembly

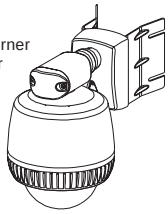
RHOLW
Indoor/Outdoor
Long wall mount,
with end cap assembly



RHOWPA
Indoor/Outdoor Pole
strap adapter for
RHOSW
and RHOLW



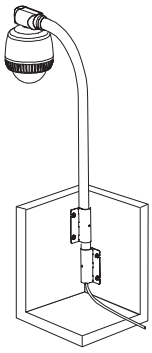
RHOWCA
Indoor/Outdoor Corner
bracket adapter for
RHOSW
and RHOLW



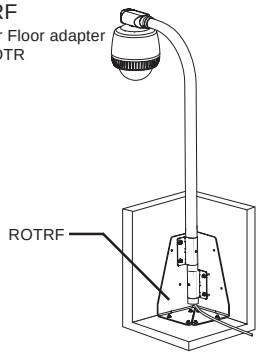
RHINCM
Indoor Ceiling
pendant mount

RHOPN
Outdoor pendant mount

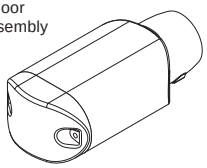
RHOTR
Outdoor Over-the-roof
mount with end cap
assembly



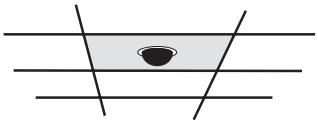
ROTRF
Outdoor Floor adapter
for RHOTR



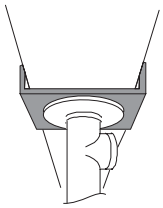
ROENDC
Indoor/Outdoor
End cap assembly



RH2X2
Indoor 2' x 2'
Tile mount plate



RHIUIB
Indoor I-beam clamp



Sensormatic
securing today's business™

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